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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,177	02/21/2002	Larry Paul Heck	003932.P018	2744

7590

12/08/2005

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EXAMINER

SERROU, ABDELALI

ART UNIT

PAPER NUMBER

2654

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,177

Applicant(s)

HECK, LARRY PAUL

Examiner

Abdelali Serrou

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 0202 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/29/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the office action from 02/28/2005, the applicant has submitted an amendment, filed on 08/29/2005, canceling claims 5, 15, and 21 amending claims 1, 4, 6, 7, 11, 16, 17, 22, 23, and 26, and arguing to overcome the references used.

Response to Arguments

2. Applicant's arguments with respect to claims 1-4, 6-14, 16-20, and 22-28 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-28 are rejected under 35 U.S.C 103(a) as being anticipated by Sharma et al. (U.S Patent 6, 539, 352, issued March 25, 2003) in view of Kanevsky et al. (U.S 5, 774, 525 issued on Jun. 30, 1998).

5. As per claims 1, 7, 11, 23, and 26 Sharma et al. teach a system, method, and a machine-readable medium that comprise:

Art Unit: 2654

receiving a first (enrollment) utterance from an intended talker (user during enrollment) at an integrated speech and speaker recognition system (During enrollment, the user speaks the password, which is sampled by the system, column 3, line 27, 28);

generating a voice characteristic model for the user (Feature extraction is then performed to extract features of the user's voice for voice characteristics modeling, column 3, line 41, 42);

receiving a second (test) utterance from the intended talker at the speaker recognition system (during verification, the speaker speaks the password into the system, column 4, line 32, 33).

computing a speaker verification score based on the voice characteristic model associated with the (test) portion of speech. In the verification the "test speech" password gets processed in the same manner as the enrollment phase (column 4, line 33, 34) wherein the voice features are extracted (column 3, lines 41-43), then the "test speech" password is segmented and scored as described above in the case of the speech recognition;

computing a speech recognition score associated with the portion of speech. During the process of the second utterance "test speech" (column 4, line 28) Sharma et al. teach a system that also recognizes the password phrase or the "test speech" associated with the portion of the speech (column 4, lines 27-31), segments the password into subwords and uses multiple classifiers to score the subwords (column 5, line 10, 11);

generating a combined score by combining the speaker verification score and the speech recognition score (the scores are fused or combined, column 5, line 11, 12);

Art Unit: 2654

However, Sharma et al. do not explicitly teach selecting a best hypothesis from a plurality of hypotheses representing automatic speech recognition results of the second utterance based upon the combined score.

Kanevsky et al. in the same field of endeavor do teach selecting a best hypothesis of the entered passwords and voice characteristics from a plurality of hypotheses representing automatic speech recognition results of the second utterance based on both the speaker verification score and the speech recognition score (necessarily disclosed within the process of password verification and the voice verification of the authentication of system (col. 10, lines 24-27), using ASR system (col. 4, lines 59-64), wherein the system selects the best hypothesis of the entered passwords and voice characteristics, resulting from questioning the user and verifying the answers with the data stored, versus deselecting the hypothesis resulted from the matching the user's voice with the stored voice characteristics in the system's database).

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate Kanevsky et al.'s feature of selecting the best hypothesis of the entered passwords and voice characteristics from a plurality of hypotheses representing automatic speech recognition results to the system of Sharma et al., because Kanevsky et al. teach that this would provide a system that offers improved security in controlling access to a service or a facility (col. 1, lines 60-62).

6. As per claims 2, 9, 12 and 18, based on the rejection used above, Sharma et al. teach processing a portion of speech of the utterance received from the user, wherein the portion of the speech includes a word (password phrase, column 4, line 65).

7. As per claims 3, 10, 13, and 19 Sharma et al. teach altering a search path in Viterbi search used by the speech recognizer (Viterbi or Dynamic programming (DP) based algorithms are used to locate the optimal boundaries for the subword segments, column 15, lines 55-57).

8. As per claims 4, 14, and 20 Sharma et al. teach the use of a hotword speech recognition to identify the talker (Key word/key phrase spotting is used to optimally locate the password, column 2, line 60-61).

9. As per claims 6, 16, and 22 Sharma et al. teach voice feature (characteristic) extraction wherein voice characteristics include voice print, stored in a voice print database (column 6, line 36), a personal profile (column 3, line 37-39) and linguistic characteristics that are unique to the talker voice inherent in (Feature extraction is then performed to extract features of the user's voice, such as pitch, spectral frequencies, intonations, column 3, lines 41-43).

10. As per claim 8, Sharma et al. teach a speech input device that comprises cellular, analog, and digital phone, and voice over internet protocol device (The enrollment speech may be obtained via a receiver, telephone or other sources, and be received from any transmission media, digital or analog, including terrestrial links, land lines, satellite, microwave, column 6, lines 45-49).

Art Unit: 2654

11. As per claim 24, Sharma et al. teach a voice characteristic model such as pitch, spectral frequencies, and intonations (column 3, lines 42, 43) that are stored in a voice print database (column 3, line 48, 49) that will serve as model database during verification phase.

12. As per claim 25, Sharma et al. teach a method of obtaining the voice characteristic from the enrollment speech (necessarily including a first portion of the utterance).

13. As per claim 27, since Sharma et al. teach a CPU for speech recognition and verification (column 5, line 63), the system necessarily includes a speech server that comprises the software entities to execute the application. Furthermore, to able to process the input speech, a processor, memory, and a bus are necessary in the system in order to store the software entities and process the speech.

14. As per claim 28, Sharma et al. teach an inherent database connected to the speech server wherein the voice characteristic model of the talker is stored (An enrollment component is used to characterize a known user's voice and store the characteristics in a database, so that this information is available for future comparisons, column 3, lines 23-25).

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdelali Serrou whose telephone number is 571-272-7638. The examiner can normally be reached on 8:30-5:00.

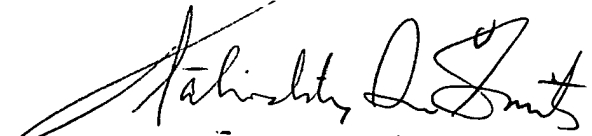
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Smits can be reached on 571-272-7628. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

Art Unit: 2654

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. Serrou
11/21/205



TĀLIVALDIS IVARS ŠMITS
PRIMARY EXAMINER